118-004F

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT OPERATION

In re Application of:

    Joseph Weinberger;
    Gary Bricault; and
    James Laird

Serial No.	: 09/902,066	Group Art Unit:	2177
Filed	: July 10, 2001	Examiner :	Lazena Martin
For	: IMPROVEMENT IN SYSTEM FOR AUTOMATICALLY MONITORING COPIERS FROM A REMOTE LOCATION		

New York, NY 10036
January 8, 2002

Commissioner for Patents
Washington, D. C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

    The following statement of relevance is submitted with the accompanying Form PTO-1449.

Document Designation	Relevance
AA U.S. 4,497,037	Relates to a user interactive system allowing users to access any one of a plurality of copiers in the system through connection of a terminal device associated with each copier to a central managing unit for managing the system and further including communication means to receive cumulatively stored data signals from each of the terminals at the central managing unit for collecting and summing up utilization value data, i.e. number of copies attributable to each user.

Kenneth F. Florek

AB
U.S.P. 4,962,368

Relates to an environmental monitoring system in which a controller is arranged to test the workability and reliability of a plurality of detector units on a cyclic basis. Each unit has an analog sensor and an analog to digital converter for converting the analog sensor voltage to a digital value in a range 0 to N. Each unit responds to a test instruction to cause the sensor analog output to assume an alarm value. The controller includes a test routine program for both issuing the test instruction and for determining if the digital signal test value is within the tolerance range and issuing a trouble output indicative of the test value being outside the range. The controller also includes a polling program which directs the polling of the detector units such that a test instruction is sent sequentially to the detector units on successive loop polls, where a loop poll is one poll of all the units coupled to the line.

AC
U.S.P. 3,623,013

Relates to a data processing system having a central or main data processor and a plurality of remote data terminals each having at least one selectively changeable terminal address. The central processor is coupled in a poll-select environment to the various remote terminal processors via a communication link. The respective remote terminals are able to modify the poll-select sequence as set up by the central processor by selectively changing its terminal address for either the poll or select mode. Additionally, groups of the remote terminals may be assigned a selectively changeable group or broadcast address which may be changed either locally at the remote terminal or remotely by the central processor.

AD
U.S.P. 4,652,698

Relates to a security system and method which are disclosed in a network comprised of a plurality of remote terminals in communication with a central processor wherein, before a user can access data from the central processor, that user's assigned terminal must first verify that the user is the proper user of that terminal and then the central processor must verify that the terminal requesting that data is authorized to access that data.

AE
U.S.P. 4,311,986

Relates to a single line refigurable power transmission and signal multiplexing system having a central processor and a plurality of remotely located devices such as sensors, actuators and associated interfaces. Communications between the central processor and the remote devices is accomplished via a single bi-directional transmission line. A negative logic pulse width encoding technique is utilized to facilitate power and signal transmission. Selective activation is accomplished by a pulse width discriminator associated with each interface which employs a two-part recognition test to identify specific pulse width signals.

AF
U.S.P. 4,712,213

Relates to fault checking of slave devices. All the slave devices are polled periodically by a master control circuit and their response is noted. The master control circuit asserts a control signal for every other poll so as to cause the slave device to invert the bits in its response signal when the control signal is asserted. The non-inversion of the bits during the period of several polls is indicative of either a fault condition or a device not present condition.

AG
U.S.P. 4,947,397

Relates to a reproduction machine having image processing means for forming an image, a controller for directing the operation of the image processing means to complete a job reproduction run, the controller including a random access memory for storing machine status information during a machine cycle down interruption prior to the completion of the job reproduction run, a disk memory, and means for detecting controller faults, the method of saving the status information in the random access memory including the steps routinely loading machine status information into the random access memory at a machine cycle down, detecting a predetermined controller fault causing a machine cycle down, and upon detecting said pre-determined controller fault, automatically transferring the machine status information from the random access memory onto the disk memory.

AH
U.S.P. 4,545,013

Relates to a network control and test system for application to data communications networks. In a first mode of operation, the system learns the network configuration automatically and builds a table describing the network configuration. In a second mode of operation, the system automatically monitors the status of the network and each of its component units, periodically polling the network for changes of status and updating the information in the network configuration table to reflect such changes. In a third mode of operation, selective sites in the network may be tested under control of the system at previously selected and entered times of day, at which times previously chosen tests are performed without the need for operator intervention. In a fourth mode, an operator can manually command the system to perform certain tests and control functions. A central site in the network includes the primary components of the system and each remote site includes a remote test module which operates under the control of and in cooperation with the central site equipment. The central site equipment includes a three-tiered, partially distributed data processing system having a semi-autonomous data processing system at each tier. Each of the tiers has predetermined functions and responsibilities.

AI
U.S.P. 4,633,412

Relates to a rectifier plant control system which includes a stored program of a master control to control operation and monitor rectifier plant conditions. The master control is designed to cooperate with optional control systems to accomplish new operations without requiring modifications to the stored program control of the master control. One such optional control system permits accessing the master control from a remote location. The optional control system includes an associated stored program which is utilized by the master control to accomplish the option. This associated stored program is in an address field of the stored program of the master control and is executed by the master control.

AJ
U.S.P. 5,038,319

Relates to a system for recording and remotely accessing certain operating data in an electrostatographic reproduction machine for use in analyzing machine faults and software crashes, with transfer of the data to a remote service site by floppy disk or telecommunications line.

AK
U.S.P. 4,463,418

Relates to a system for diagnosing and correcting errors in remote data processing equipment in which a remote data processor subject to an error condition has associated therewith disk, e.g., diskette storage means together with means for recording on said diskettes, data representing the status of the data processor under a particular error condition. The remote data processor further has associated therewith means for transmitting the status data stored on said diskette. First receiving means distant from the remote data processor receives the transmitted data and means associated with the receiving means reconstruct the diskette containing the error status data whereby this reconstruct diskette is now available for diagnostics at a point distant from said remote data processor.

AL
U.S.P. 5,057,866

Relates to a technique for monitoring machine status conditions and initiating communicating with a remote computer relative to the status conditions of the machine comprising the steps of monitoring with a calculator the predetermined status conditions relative to the operation of the machine, recognizing the deviation of the machine operation from said predetermined status conditions, responding to the deviation of the machine operation from the predetermined status conditions, automatically initiating the communication of a message to the remote computer regarding said deviation of the machine from the predetermined status conditions, and remotely altering the predetermined status conditions by which to monitor the machine.

AM
U.S.P. 5,077,582

Relates to a system for monitoring a variable output paper processing device. The monitoring system includes a counter which counts the number of papers processed and provides a count signal for each counted paper. A controller transmits the total count to a central station through a modem after either a predetermined time or a predetermined count. Internal diagnostic signals in the printing device are intercepted as they are transmitted to an internal display device of the printing device and transmitted to the central computer through the modem.

AN
U.S.P. 5,084,875

Relates to a system for automatically, remotely monitoring the operational status of one or more copy machines each having a copier computer therein for determining copier status comprising a data tap in the copier to monitor status information from the copier computer, a translator to adapt the status information for transmission to the remote location, and a transmission link between the individual copiers and the remote location. The system utilizes a scanner to respectively monitor the copiers which can poll each of the copiers at a uniform rate or, when requested by the user at the central location, vary the poll rate of one or more of the copiers to poll the selected copier with increased regularity, slowing the polling rate of the other copiers, to provide a real-time monitoring of the selected copier. The system also relates to allowing the user at the remote location to operate the copier for the diagnosis of a detected problem.

AO
U.S.P. 4,412,292

Relates to a system for the remote monitoring of vending machines and for automatically communicating conditions at the vending machines to a central computer complex. Each vending machine is provided with a microprocessor which monitors and stores data within that machine and transmits the data to the central computer complex either immediately or at scheduled call-in times. The distributed logic between the vending machine microprocessors and the central computer complex provides various alarm function signals and aids in inventory control and efficient route planning for the supply and maintenance of the machines. The data is transmitted between the central computer complex and each vending machine over telephone lines.

AP U.S.P. 4,162,488	Relates to an alarm system which utilizes the Bell System Dataphone® Select-A-Station Service equipment to communicate alarm messages from a plurality of protected premises to a central monitoring station. The system includes a plurality of transponder units, one at each of the protected premises, connected to the central monitoring station through the Bell System equipment. The central monitoring station sequentially polls all the transponders. This is accomplished by sequentially setting up connections from the central monitoring station to the transponder units and sending a Start tone burst. In response to receipt of a Start tone burst, the connected transponder transmits a tone burst reporting the status of the protected premises. The central monitoring station includes a memory for storing the status of each of the protected premises, a display, a printer, and associated control circuitry.
AQ U.S.P. 4,964,065	Relates to an electronic communication system monitor in one embodiment which has sensors for sensing electrical and environmental conditions for communication system elements. Control relays connect the elements to a programmable controller. The programmable controller has a keyboard, display, printer and modem for remote communication of information; especially alarms providing notice of operating conditions outside acceptable parameters. A second embodiment provides a logic circuit connected to selected sensors which determines when a combination of conditions exist to cause alarm and automatically activates a remedial device to alleviate a potential problem. The central processor also has a message synthesizer and a connector for communicating a message using dual-tone multifunction coded signals or digitized voice signals to maintenance, emergency and security personnel or remote computers as appropriate; a memory for accumulating information and report preparation instructions for preparing reports of current alarms, alarm history, current status, relay status, channel monitor, and channel on time reports; and instructions for set-up. Manual or automatic operation is provided.
AR U.S.P. 5,016,059	Relates to a remote control system for providing accurate copy count and controlling in the operation of self-service photocopy machines. The system is comprised of a remotely located transmitter which can send digital signals to enable or disable selected self-serve photocopy machines. A receiver mounted on each photocopy machine controls a digital display which indicates the number of legal or letter size photocopies being made. A user operated switch on the receiver lets a user disable the copy machine when copying is complete. The photocopy machine is enabled by a reset signal sent from the remote transmitter which also clears the digital display. The receiver display and transmitter are adapted to a wide variety of existing photocopy machines by a universal interface circuit.

AS U.S.P. 4,870,644	Relates to a pair of counters associated with the control elements in a complex control system, counters associated with the intelligent processors in a multiprocessor control. The counters are maintained in nonvolatile memory and one of the counters for each remote records software crashes experienced in both standby and run mode. The other counter records total software crashes during normal machine operation. These counters provide information on the location and type of software crashes. This invention also relates to a procedure which provides for the Tech Rep to force the machine into a software crash. The Tech Rep can then interrogate the content of RAM locations before the RAM locations are initialized by the machine reset. The contents of various RAM locations can be selectively displayed for diagnosis.
AT U.S.P. 4,695,946	Relates to a maintenance processor which forms part of a computer network wherein the processor operates to initialize and maintain and communicate to remote diagnostic terminals for purposes of confirming integrity of the system and also for displaying data for locating any faults or problems in the network. The maintenance subsystem initiates start-up and self-test routines in a sequenced order for establishing the integrity of the units in the network. The subsystem includes means for testing two types of subsystems, that is, one having I/O controllers with self-test capability and another subsystem having I/O controllers without self-test capability. The UIP provides means for complete control of the network. It can interface the network to a remote service center where all operations such as power-up and initialization can be also effectuated.
AU U.S.P. 4,623,244	Relates to a copy production machine having a print mode for making copies under automatic control interruptible by a copy mode of making copies. In the print mode images to be copied are automatically supplied to a copy production portion. In the copy mode, a variety of image supplying techniques may be employed. Copy output means separate copies mode from the two modes. In the print mode images are preferably precollated whereas in the copy, mode produced copies are collated. In a print mode plural image sources may be employed, such sources being activated ad seriatim.
AV U.S.P. 4,330,847	Relates to a store and forward unit having an output print station with convenience copying capabilities has connections to diverse text signal sources and destinations. Such diverse sources and destinations may have established textual format and control characters not necessarily shared with other sources and destinations. The store and forward unit, upon receiving a set of text signals, examines the text control characters. Based upon such examination, the store and forward unit processes such text without changing the control characters to adapt, if necessary, to the connected destinations.
AW	Relates to a copy production machine having a print mode for

| U.S.P. 4,213,694 | making copies under automatic control interruptible by a copy mode, of making copies. In the print mode images to be copied are automatically supplied to a copy production portion. In the print mode, images are preferably precollated, whereas in the copy mode, produced copies are collated from plural image sources. The first set of each print job is printed one sheet at a time ad seriatim; in subsequent sets of all first sides are printed, then all second sides. The first set printing is interleaved with image signal reception and in all subsequent sets, all image signals for the sets or production portion of a set have been received. |

| AX U.S.P. 4,144,550 | Relates to a reproduction machine having a plurality of operating stations and a plurality of devices for controlling operational tasks of said operating stations comprising a master controller having an arithmetic and logic unit for controlling the devices in accordance with sensed operational parameters and a stored operation program and interface means connected in a communication path between the master controller and the devices. The interface means comprises a fiber-optic communication path for isolating the master controller from electrical noise and transients of the devices. |

| AY U.S.P. 4,583,834 | Relates to a plurality of copier machines which are connected to a computer. Each copying machine comprises sensor means for sensing various operating parameters thereof such as a total number of copies produced, machine malfunctions, amounts of remaining copy sheets and toner, etc. These parameters are all transmitted to the computer which processes and prints them out. In response to a copying machine malfunction, the computer feeds back to the malfunctioning copying machine instructions for correction. The instructions are displayed at the copying machine. The computer further computes the degree of degeneration of the photoconductive element of each copying machine and controls the imaging exposure intensity and developing bias voltage. |

| AZ U.S.P. 5,057,866 | Relates to a technique for monitoring machine status conditions and initiating communication with a remote computer relative to the status conditions of the machine comprising the steps of monitoring with a calculator the predetermined status conditions relative to the operation of the machine, recognizing the deviation of the machine operation from said predetermined status conditions, responding to the deviation of the machine operation from the predetermined status conditions, automatically initiating the communication of a message to the remote computer regarding said deviation of the machine from the predetermined status conditions, and remotely altering the predetermined status conditions by which to monitor the machine. |

| BA U.S.P. 3,916,177 | Relates to an apparatus for verification of the operation and for diagnosing a fault condition in a data processing unit from a remote entry site. A communication channel allows data to be |

exchanged between the remote entry site and the data processing unit. The data processing unit contains two subsystems with associated control apparatus and error condition detection apparatus. In addition, the control apparatus of each subsystem can manipulate the apparatus of the other subsystem and has access to a plurality of registers in both subsystems. One subsystem can be used to test the apparatus of the other subsystem, under control of input data from the remote entry site and the result of the testing can be transferred for analysis to the remote entry site. The verification and diagnostic procedure can be performed from the remote entry site or extended procedures can be used to supplement internal programs via the communications channel.

BB
U.S.P. 3,744,043

Relates to an environmental data system which continuously records the output of one or more field located environmental sensors and which establishes a communication link with a remote central control station when the output of any of the sensors, over a predetermined period of time, exceeds a predetermined threshold magnitude. When the communication link is established, data relative to the sensors is automatically transmitted to the central control station, along with suitable station and sensor identification. The communication link may also be activated from the central control system, to monitor the latest sensor readings at any field location.

BC
U.S.P. 3,400,378

Relates to a data acquisition system having a central station connected to a plurality of remote stations through telephone type communication channels. Central station automatically dials a remote station for the transmission of data. Each remote station has a plurality of data stores which are coupled through scanners to a transmitter for transmitting the data sequentially to the central station. If a remote station did not answer a telephone call, central station automatically redials a predetermined number times. After the predetermined times of redialling, central station makes a record that a particular remote station could not be reached. Alarm information is also transmitted from remote stations to central station. The receivers of the various stations are decoupled from the communication network whenever it is transmitting. Scanners initiate end of message operation of each of the remote stations.

BD U.S.P. 4,745,602	Relates to a printer or plotter for providing printed representation of text and graphics, which further provides a specific error code signal returned to the host system. The error signals comprise fatal and nonfatal classes of system errors. The system of the data output device provides a large number of specific error conditions, to provide a specific error status indication to the system host. Upon occurrence of certain recoverable conditions for nonfatal errors, when recognized by the host system, the host computer may invoke a procedure to reset the data output device, and adjust its output data flow accordingly to provide a corrective measure in operation of the host computer with the data output device.
BE U.S.P. 5,214,772	Relates to a system for automatically, remotely monitoring the operational status of and initiating operational commands in one or more copy machines each having a copier computer therein for determining copier status and controlling operation of the copy machine comprising interface means in the copier to monitor status information of the remote location from the copier computer and receive and input operational commands from the remote location into the copy machine and communication means between the individual copiers and the remote location. The system utilizes a scanner to respectively monitor the copiers which can poll each of the copiers at a uniform rate or, when requested by the user at the central location, vary the poll rate of one or more of the copiers to poll the selected copier with increased regularity, slowing the polling rate of the other copiers, to provide a real-time monitoring of the selected copier. The system provides for the operation of the copier from the remote location to allow the user at the remote location to operate the copier, i.e. for the diagnosis and correction of a detected problem.
BF U.S.P. 5,077,582	Relates to a system for monitoring a variable output paper processing device. The monitoring system includes a counter which counts the number of papers processed and provides a count signal for each counted paper. A controller transmits the total count to a central station through a modem after either a predetermined time or a predetermined count. Internal diagnostic signals in the printing device are intercepted as they are transmitted to an internal display device of the printing device and transmitted to the central computer through the modem.
BG U.S.P. 4,167,322	Relates to a plurality of electrostatic copying machines which are interconnected by bus lines. Each copying machine is provided with a sensor unit for sensing various status parameters of the copying machine such as whether the copying machine is available for use, the copy sheet size, the number of copies made, the number of copy sheets remaining, etc. Each copying machine is further provided with a display unit for displaying the status parameters of all of the copying machines. A microcomputer is provided at one of the copying machines for storing and processing the status parameters and producing a hard copy.

BH U.S.P. 4,183,089	Relates to a data communications system for an electrophotographic type reproduction machine or copier. The system includes a programmable master controller with memory and a command byte generator. A plurality of secondary controllers provide input data bytes reflecting the machine status to the master controller and receive command bytes from the master controller for operating the machine components. The secondary controllers are each connected to the master controller such that corresponding data bits of the secondary controller are ORed together to provide simultaneous transmission of input data bytes from the secondary controllers to the master controller while assuring that corresponding bits of the simultaneously transmitted bytes have mutually exclusive data therein.
BI U.S.P. 5,333,286	Relates to a system for automatically, remotely monitoring the operational status of and initiating operational commands in one or more copy machines each having a copier computer therein for determining copier status and controlling operation of the copy machine including an interface in the copier to monitor status information of the remote location from the copier computer and receive and input operational commands from the remote location into the copy machine and a communication link between the individual copiers and the remote location. The system utilizes a scanner to respectively monitor the copiers which can poll each of the copiers at a uniform rate or, when requested by the user at the central location, vary the poll rate of one or more of the copiers to poll the selected copier with increased regularity, slowing the polling rate of the other copiers, to provide a real-time monitoring of the selected copier. The system provides for the operation of the copier from the remote location to allow the user at the remote location to operate the copier, i.e. for the diagnosis and correction of a detected problem.
BJ U.S.P. 5,603,060	Relates to a method for controlling copy machine keystroke commands on a copy machine having operational keys thereon from a remote location by generating a copier control panel operation keystroke command from a remote location and transmitting a data pattern corresponding to the command to the copier control computer.
BK U.S.P. 5,297,256	A digital image processing system comprises a processor at a central, first site, and digital image processing equipment such as an analyze scanner and an expose scanner at a second site remote from the first site. The processor and the digital image processing equipment are connectable and are adapted to pass signals therebetween corresponding to signals generated by the digital image processing equipment. These signals may be representative of operator commands or digital data generated at the second site which can be monitored at the first site.

CA JP 59-81656	Relates to a system to enable communication of maintenance information obtained at each copier at prescribed time and display in a control device by storing use information, such as the amount of copies used by each separate division and maintenance information in at terminal at the site of each copying machine, and enabling communication between the control device and terminal of each copying machine at optional times.
CB JP 60-263163	Data control device for a copier.
CC JP 63-121857	A copier for a data logging system.
CD JP 62-150263	A control system.
CE Europe 87-302991.2	A digital image processing system and method.
CF Canada 1 266 922	A management communication terminal is formed by integrating an electronic, raster scanning camera with a personal computer. The terminal has a keyboard, a Winchester disk drive, a telecommunication controller, a cathode ray tube monitor, and a thermographic, raster image printer. Two such terminals define an office information system for the exchange of information produced at the keyboards and by the cameras. In each terminal, the coded data generated at the keyboard and the raster image data generated by the camera are temporarily stored in separate data buffers and from there are routed to the monitor, the printer and disk storage. The monitor and printer are able to display and print respectively images created from the keyboard data, the camera data or a combination of the two. The camera data is compressed prior to storage and is reduced in resolution prior to application to the monitor. The telecommunication controller, when coupled to a transmission line, transfers keyboard and camera data directly between the disk memories associated with two terminals.
DA	Relates to the XEROX RIC system designed to alert service maintenance persons to possible failure conditions in the XEROX 1090 copier before failure and eliminate on-site billing meter readings.
DB	Relates to diagnostic monitoring system which informs a central computer of performance by calling the central computer on a dedicated phone line.
DC	Relates to a Kodak system for diagnosing problems in Ektaprint duplicators utilizing telephone lines to transmit information to a remote location once the user unlocks a modem in the duplicator through the control panel.

DD
IBM Corp.

Relates to a copier control system with a terminal at each copier for collecting information, providing access and for turning off the power to copiers which are under computer control.

Full text copies of the newly cited references BK and CB-CF are enclosed herewith. The remaining references are those previously provided in the patent application with the Serial No. 09/421,992 filed October 19, 1999, now U.S. Patent No. 6,282,383 and, as such, copies are not enclosed. It is respectfully requested that this art be considered by the Examiner in the above identified application and made of record therein.

Respectfully submitted,

Kenneth F. Florek
Reg. No. 33,173

MAILING ADDRESS:
Hedman & Costigan, P.C.
1185 Avenue of the Americas
New York, NY 10036-2646
(212) 302-8989